

CLAIMS

1. Wiper lever (10) with a wiper arm (12) and a wiper blade (14) linked to it to clean windows (15) of motor vehicles in particular, which is provided with a band-like, long-stretched-out, elastic supporting element (22) that is curved in the longitudinal direction over its band surfaces (26, 28), which features a rubber elastic wiper strip (30) that can be applied to the window (15) on its concave-curved band surface (26), on whose convex-curved band surface (28) an articulated part (20) sits, on which an adapter (40) is positioned so that it can move in a pendulum fashion, which has walls aligned in the longitudinal direction of the wiper blade and standing on the band surfaces of the supporting element with planes situated at a distance from one another, and moveable locking means (68, 70) are arranged on the adapter, which cooperate with counter-locking means (66) of the wiper arm, characterized in that the locking means are arranged on at least one of the two walls (42) and are moveable essentially transverse to the surfaces of these walls.
2. Wiper lever according to Claim 1, characterized in that the adapter (40) has a U-shaped cross-section at least in sections, whose U-legs (42) form the two walls between which supporting walls (34) embodied on the articulated part (20) suitably dip.
3. Wiper lever according to Claim 2, characterized in that the adapter (40) suitably grips over two longitudinal walls (34) of the articulated part (20), which are situated at a distance from one another, with its U-legs (42), that the articulation means (50, 38) are arranged on the longitudinal walls and on the U-legs (42) and that the locking means (72) of the adapter (40) that is composed of an elastic material are located on an extension (70) of the U-legs of the adapter extending beyond the longitudinal walls (34).
4. Wiper lever according to Claim 3, characterized in that the wiper arm (12) that is driven in a pendulum fashion accommodates the adapter (40) with a connecting piece (18) that is U-shaped in cross-section and that the extension (70) of the adapter extends towards the pendulum axis (16).

5. Wiper lever according to Claim 4, characterized in that the locking means (72) of the adapter (40) that are preferably moveable against a restoring force are located on the outer side of the extension (70) facing the U-legs (52) of the connecting piece (18) that is provided with the counter-locking means (66) of the wiper arm (12).
6. Wiper lever according to one of Claims 1 through 5, characterized in that limit stops (59, 68) that are aligned opposing one another at a distance from one another in the longitudinal direction of the adapter are embodied on the adapter (40), which are assigned counter-limit stops (63, 66) located on the connecting piece (18) of the wiper arm (12).
7. Wiper lever according to Claim 6, characterized in that the at least one of the limit stops located on the adapter (40) is formed by its locking means (72).
8. Wiper lever according to one of Claims 2 through 7, characterized in that locking means (72) are arranged on each of the two U-legs (42) of the adapter (40).
9. Wiper lever according to one of Claims 4 through 8, characterized in that the counter-locking means (66) that cooperate with the locking means (72) of the adapter (40) are located on each of the two U-legs (52) of the connecting piece (18).
10. Wiper lever according to one of Claims 2 through 9, characterized in that the articulation means of the articulated part (20) are formed by an articulated bolt (38) arranged on each longitudinal wall (34), whose axes are aligned with one another.
11. Wiper lever according to one of Claims 2 through 10, characterized in that the articulation means of the adapter (40) are formed by the bearing receptacles (50) arranged in the U-legs (42), each of which are open-edged via an assembly channel (46) terminating on the free end of the U-legs (42) that has been coordinated with the diameter of the respective articulated bolt (38).

12. Wiper lever according to Claim 11, characterized in that each assembly channel (46) is provided with an elastically expandable narrowing (48).
13. Wiper lever according to one of Claims 11 or 12, characterized in that each U-leg (42) of the adapter (40) is provided on its outer side with a collar-like projection (60) encircling the bearing receptacle (50), to which a recess (62) is assigned, which is open to the free end of the respective U-leg and is adapted at least in sections to the contour of the projection.
14. Wiper lever according to Claim 13, characterized in that the collar-like projections (60) together with the section (63) of the recesses (62) that are adapted to its progression form the limit stops and counter-limit stops.
15. Wiper lever according to Claim 14, characterized in that the adapter (40) is provided on at least one of its U-legs (42) with an elastically deflectable tongue (70) that features a locking tooth (72) and that the locking tooth has a limit stop shoulder (68) pointing towards the collar-like projection (60), which cooperates with a counter-limit stop shoulder (66) embodied on the connecting piece (18) and pointing away from the collar-like projection.
16. Wiper lever according to Claim 15, characterized in that the recess (62) in the U-legs (52) of the connecting piece (18) that is assigned to the collar-like projection (60) has a progression that is curved from its termination (61) at the free end of the U-legs toward the counter-limit stop shoulder (66).
17. Wiper lever according to one of Claims 2 through 15, characterized in that pin-like supports (156) that align with one another are arranged on each outer side of the U-legs (42) of the adapter (140) at the longitudinal end area facing away from the locking means (154), to which a support bearing (158) embodied on the U-legs (159) of the connecting piece (118) is assigned.
18. Wiper lever according to one of Claims 15 through 17, characterized in that the locking tooth (154) of the adapter (140) that forms the locking means is provided with a holding shoulder (165) pointing away from the U-base (144) of the adapter, which is assigned a counter-holding shoulder (166) embodied on the connecting piece (118) and pointing to its U-base.

19. Wiper lever according to one of Claims 1 through 18, characterized in that guiding means (260, 280) located both on the connecting piece (268) of the wiper arm as well as on the wiper blade, in particular on its adapter (240), cooperate during assembly of these components and force their proper positioning vis-à-vis each other.
20. Wiper lever according to Claim 19, characterized in that the guiding means of the wiper blade are formed by a groove-like link guide (260) located in a U-leg (242) of the adapter (240) and terminating at its U-base (258), into which the guiding means of the wiper arm (12, 268) embodied as guide pins (280) and arranged on the connecting piece (268) dip.
21. Wiper lever according to Claim 20, characterized in that the guide groove (260) is provided with a funnel-like expansion (264) at its termination.
22. Wiper lever according to one of Claims 19 through 21, characterized in that the collar-like projection (272) is adjacent, with a supporting shoulder (288) that points towards the free end of the U-leg (242), to a counter shoulder (290) of the connecting piece (268).
23. Wiper lever according to one of Claims 2 through 22, characterized in that the locking means (248) of the adapter (240) that are arranged on the extension (254) of the U-legs (242) have a locking shoulder (248) pointing toward the articulated connection, with which a counter-locking shoulder (276) of the connecting piece (268) that points away from the articulated connection cooperates, when the proper positioning has been achieved between the wiper arm (12) and the wiper blade (14).
24. Wiper lever according to one of Claims 2 through 22, characterized in that a laterally projecting handle (256) is arranged on the extension (254) of the U-legs (242) that features the locking means (248) of the adapter (240).

25. Wiper blade (14) to clean windows of motor vehicles in particular, which is provided with a band-like, long-stretched-out, elastic supporting element (22) that is curved over its band surfaces (26, 28), which features a rubber elastic wiper strip (30) that can be applied to the window (15) on its concave-curved band surface (26), on whose convex-curved band surface (28) an articulated part (20) sits, on which an adapter (40) is positioned so that it can move in a pendulum fashion, which has walls (42) aligned in the longitudinal direction of the wiper blade and standing on the band surfaces of the supporting element (22) with planes situated at a distance from one another, and locking means are arranged on the adapter that are moveable against a restoring force, which can cooperate with counter-locking means (72) of a wiper arm (12) that can be connected in an articulated manner to the wiper blade, characterized in that the locking means are arranged on at least one of the two walls (42) and are moveable essentially transverse to the surfaces of these walls.
26. Adapter (40) to detachably connect a wiper blade (14) to a wiper arm (12), wherein the adapter has a U-shaped cross-section at least in sections, in whose U-legs (42) bearing receptacles (46, 50) for articulated bolts (38) located on the wiper blade are situated and the adapter (40) is provided with at least one elastically deflectable limit stop shoulder (68, 72), which can cooperate with a counter-limit stop shoulder (66) of the wiper arm (12), characterized in that the limit stop shoulder (68, 72) is moveable transverse to the extension plane of the U-legs (42) and is arranged preferably on at least one of the U-legs.